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Vol. 39 / Num. 12

Marshall Space Flight Center

November 18, 1998



NASA photo by Danny Reeves

U.S. Lab Module safely shipped from the Marshall Center to the Kennedy Space Center

The International Space Station U.S. Laboratory Module began the initial leg of its journey to space as it passed in front of Bldg. 4200 at the Marshall Center. Transportation of the module Monday evening, Nov. 16 from Huntsville to the Kennedy Space Center, Fla., culmi-

nated years of work on the part of the Marshall Center, Boeing and many other government and industry partners. See page 2 for more photos.

Unity readies for launch aboard Endeavour; U.S. Lab Module safely arrives at Kennedy

The next Space Shuttle mission, STS-88, scheduled for launch Dec. 3, will mark the first U.S. International Space

Station launch. It will carry the U.S.-made Unity Connecting Module into orbit aboard Space Shuttle Endeavour.

Endeavor, with an international crew, will carry Unity to a rendezvous and attachment with Zarya, the Russian Control Module. The STS-88 flight crew will deploy Unity from

Endeavor's payload bay and then connect it to Zarya. Zarya is scheduled for launch on a Russian Proton rocket Nov. 30 from the Baikonur Cosmodrome, Kazakstan.

"There has been a tremendous amount

of excellent work done by everyone involved with Unity from day one to get to this point," said Steve François,

> director of Space Station and Shuttle payloads at the Kennedy Center. "Unity represents the first new human spacecraft to go to a Kennedy launch pad since the first Space Shuttle launch 17 years ago. We're excited and ready to see Unity in orbit. We've got

a processing facility full of other station components."

The centerpiece of the station, the U.S. Laboratory, was safely shipped from Marshall Center and arrived at Kennedy See Space Station on page 2

Weiler named associate administrator for Office of Space Science

ASA Administrator Dan Goldin Nov. 16 named Dr. Edward J. Weiler as associate administrator for NASA's Office of Space Science, effective immediately.

Weiler has served as acting associate administrator since Sept. 28, following the departure of Dr. Wesley T. Huntress Jr.

"In his short time as acting associate administrator, Ed Weiler has demonstrated both the management skills and scientific *See Weiler on page 4*

"Keep safety strong, you can't go wrong"

Safety slogan submitted by Marvin Tucker, EP63



Above, the Marshall Center and Boeing engineers, having put their stamp of approval on the International Space Station's U.S. Laboratory Module, prepare to ship the lab from Marshall to Kennedy Space Center, Fla. The lab module is scheduled to be launched into space in early 2000.



Above, the U.S. Laboratory Module is lifted from its cradle late Friday night, Nov. 13, as the Space Station manufacturing team from Marshall and Boeing prepare it for shipment to Kennedy. On Monday, Nov. 16, the module was loaded aboard NASA's Super Guppy aircraft and flown from Huntsville to Kennedy.



Left, the U.S. Laboratory Module is loaded into the Super Guppy cargo plane after safely completing its trip from Marshall to the Huntsville airport.

Space Station

Continued from page 1

Space Center Monday, Nov. 16. The module was transported from Marshall to the Huntsville airport where it was loaded into NASA's Super Guppy aircraft for transport to Kennedy.

"The era of the International Space Station is here," François added.

Unity

Unity, the cornerstone for the Space Station, is a six-sided connecting module to which all future U.S. station modules will attach. Unity will serve as a habitable passageway to various parts of the station. Attached to Unity's forward and aft berthing ports for launch are two conical mating adapters, one to serve as a permanent connection to the Russian station segment and another that will serve as a

Shuttle docking port.

Built by The Boeing Company for NASA, the 25,000-pound Unity

began construction in 1994 at the Marshall Center. Because it is a station hub, more than 6 miles of electrical wiring, 216 lines that will carry fluids and gases, and 50,000 mechanical items have been installed in Unity.

The U.S. Laboratory Module

The U.S. Laboratory Module will be a world-class, state-of-the art research facility in a near-zero gravity environment.

The lab will provide crew members a year-round, shirtsleeve atmosphere for research in many areas, including life sciences, microgravity sciences, Earth science and space science research.

The facilities inside the lab are designed to yield a steady stream of

findings from hundreds of high-quality science and technology experiments. It is the primary workstation for the United States' involvement on the Space Station.

The U.S. Laboratory Module is comprised of three cylindrical sections and two end-cones. Each end-cone contains a hatch opening where crew members will enter and exit the lab.

The Boeing-built lab module also was constructed at Marshall. The International Space Station draws upon the resources and expertise of 16 nations and is the largest international science and technology effort in history, undertaken to explore space for the benefit of all humankind.

More than a half-dozen major Space Station components are in the processing facility at Kennedy Space Center, and by the end of the year more than 500,000 pounds of U.S. and International Station equipment will have been completed.

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Marshall engineer "gives back" to alma mater

by Joy Carter Media Relations

r. Shelia Nash-Stevenson, an electronics engineer at the Marshall Center, is going back to school. But this time, she's the teacher, not the student.

She is one of five NASA employees participating this year in the NASA Administrator's Fellowship Program an exchange program for NASA employees and faculty of minority colleges and universities.

Nash-Stevenson returned this fall to Alabama A&M University in Huntsville — her alma mater — as a physics professor with real-world experience to share with her students.

"I'm really enjoying teaching," said Nash-Stevenson. "It's an opportunity to show young people that science is fun and encourage them to pursue careers in science."

But that's only part of Nash-Stevenson's lesson plan. The real message she hopes to convey to her students is that they can do anything — be anything they want. "They can do whatever they put their minds to,"

she said. "I want them to really believe that and aim for the top."

Nash-Stevenson, the only female African-American in Alabama to earn a doctorate degree in physics, has a good footing from which to share that message with young people. "I tell my students that if I can do it, they can, too." She credits excellent

teachers with her success and hopes to have the same influence on her students. "I had teachers who really cared and encouraged me to do well," said Nash-

NASA photo

Dr. Shelia Nash-Stevenson, an electronics engineer at the Marshall Center and one of five NASA employees participating this year in the NASA Administrator's Fellowship Program, teaches students in her classroom at A&M University in Huntsville.

Stevenson. "Also, my teachers expected me to do well. When you have people who expect things from you, you try to live up to those expectations."

Nash-Stevenson says she's never been one to back away from a challenge, which is why she decided to participate in the fellowship program. "I'm always looking for challenges and opportunities that will provide me with more experience and help me do my job better," she said.

The NASA Administrator's Fellowship Program

is a professional development program for NASA employees and faculty of minority institutions. NASA employees work at a minority school helping in

whatever capacity they are needed teaching, conducting research or assisting with administrative functions - while minority faculty conduct research at NASA centers.

"The knowledge gained by the participants helps the minority institutions better understand the roles and missions of the agency and enables NASA to learn more about how minority institutions can assist in accomplishing these roles and missions," said Charles Scales, director of Marshall's Equal Employment Opportunity Office.

The program also includes workshops, tours of NASA centers and a trip to Kennedy Space Center in Florida to view a Space Shuttle launch. "We were there for the STS-95 launch," said Nash-Stevenson. "It was great to share in the excitement of John Glenn's return to space."

The NASA Administrator's Fellowship Program is administered by the National Research Council in Washington, D.C., for NASA's Equal Employment Opportunity Office.

"It's an opportunity to show young people that science is fun and encourage them to pursue careers in science."

Dr. Shelia Nash-Stevenson, electronics engineer at Marshall enrolled in NASA's Administrator's Fellowship Program

November 18, 1998 **MARSHALL STAR** **During Education Week Nov. 15-21**

Workshops, open house at Educator Resource Center

In keeping with this year's
American Education Week theme
"Teaching People to Think and
Dream: Togetherness Through
Education" — Marshall's Educator
Resource Center, located in the U.S.
Space & Rocket Center, will hold an
open house from 2-5:30 p.m.,
Thursday, Nov. 19.

The open house will offer educators the opportunity to preview science, mathematics and space technology teaching materials and resources offered through the Center. Refreshments will be served during the open house. For more information about Marshall's Educator Resource Center, call Alease Sims at 544-5812.

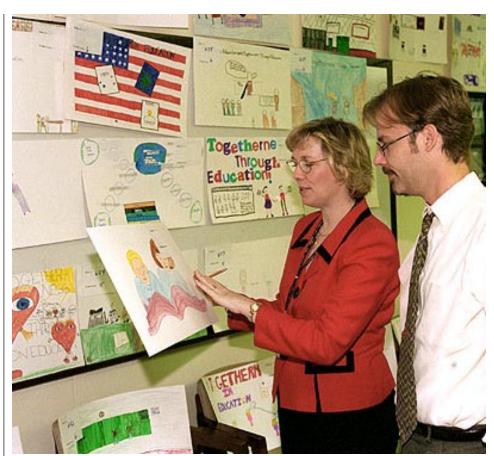
A variety of local educational events continued during Education Week, including:

Wednesday, Nov. 18 — College mentoring programs at local schools.

Thursday, Nov. 19 — Marshall's Educator Resource Center open house from 2-5:30 p.m. in the U.S. Space & Rocket Center, and the Redstone Army Educational Center open house and panel discussion "Chat with a Chief" from 9:30-10:30 a.m. in the Sparkman Center.

Friday, Nov. 20 — American Education Week Luncheon and Student Contest Awards at 11:30 a.m. at the Huntsville Hilton.

Throughout the year, the Marshall Center supports teachers and students through a variety of programs and services. More information about Marshall's educational programs may be found at the following Web site: http://www.msfc.nasa.gov/education/



NASA photo by Terry Leibold

Center programs help bring space to the classroom

More than 600 students in grades K-12 from Huntsville City, Madison City, Madison County and private schools participated in a Marshall-sponsored youth poster contest last week for American Education Week. Above, Project LASER volunteers Amy Epps of Marshall's Information Systems Services Office, and Frank Brannon of Marshall's Education Programs Office, judge winners of the Youth Poster Contest.

Weiler -

Continued from page 1

leadership that this position demands, and I am delighted he has accepted the offer on a more permanent basis," Goldin said.

In this capacity, Weiler will be responsible for providing overall executive leadership of NASA's Space Science Enterprise. This enterprise aims to achieve a comprehensive understanding of the origins and evolution of the Solar System and the Universe, including connections between the Sun and the Earth, the beginnings of life and the question of whether life exists elsewhere beyond Earth. It also is charged with communicating this knowledge to the public.

Weiler was appointed as Science

Director of the Astronomical Search for Origins and Planetary Systems theme within the Office of Space Science in March 1996. He will continue to serve as the program scientist for the Hubble Space Telescope, a position he has held since 1979, until a replacement for that position is selected. Prior to joining NASA in 1978 as a staff scientist, Weiler was a member of the Princeton University research staff and was based at Goddard Space Flight Center, Greenbelt, Md., as the director of science operations of the Orbiting Astronomical Observatory-3 (COPERNICUS). Weiler received his doctorate in astrophysics from Northwestern University in Evanston, Ill., in January 1976.

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NASA photo by Emmett Given

Stephenson tosses coin during 'NASA Day'

Center Director Art Stephenson, center, participated in the honorary coin toss Nov. 14 during High School SeniorDay/NASA Day at Alabama A&M University in Huntsville. The event, coordinated by Marshall's Equal Opportunity Office, was held in conjunctiion with the Alabama A&M vs. Alcorn State football game. More than 2,000 high school seniors attended the event designed to encourage students to pursue careers in science and engineering.

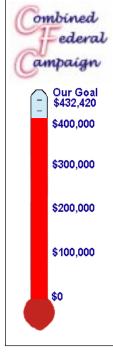
Center pledges \$408,692 after sixth week of CFC

The Marshall Center's Combined Federal Campaign (CFC) has passed its sixth week with employees pledging \$408,692 to charitable organizations.

"Our CFC goal is \$432,420," said CFC chairperson Cathy

Nichelson. "And our official solicitation for campaign contributions will continue this week. Marshall has always achieved its goal, and we expect to do it again this year."

Center offices that have achieved 100percent participation include: AB01, AI01, AI11, AL01, AM01, BC01, BF01, BF20,BF70, CC01, CE01, CO01, CO02, CO03, CO10, CO30, CO40, CO50, CO60, CO70,CR01, CR50, CR55, CR60, CR75, CR90, DA01, DE01, EB11, EB31, ED71, EE21, EE31, EE51, EE54, EH21, EH51, EJ32, EJ33, EJ41, EJ43, EJ44, EM41, EO41, EO46, GP01, HR10, JA01, JA02, JA10, JA21, JA41, JA51, JA52, JA61, JA63, JA81, MG01, MG10, MG21, MG30, PA01, PP01, PP04, RA20, SA01, SA04, SA21, SA24, SA31, SA34, SA41, SA45, SA51, SA52, TA01, TA11, TA21, TA31 and TA61.



Simple safety precautions can prevent home fires

by Dennis Davis
Safety & Mission Assurance Office

ecember, January and February are the leading months for U.S. home fires and home fire deaths. On average, more than one-third of home fire deaths in the United States occur during the winter months.

Safer home heating

According to experts at the National Fire Protection Association (NFPA), taking simple safety precautions could prevent most U.S. home fires caused by heating equipment. The National Fire Protection Association's latest report on U.S. home heating fire patterns indicates that heating equipment fires are the second leading cause of fire deaths in American homes and the biggest fire culprit in December and January. In 1994, an estimated 73,800 home heating fires killed 487 people and injured just under 2,000.

"The home heating fire problem in America is largely one of human error, particularly with the misuse of portable heaters, fireplaces and woodstoves," said Meri-K Appy, National Fire Protection Association assistant vice

Protect your family and home

According to the National Fire Protection Association's report, the major causes of U.S. home heating fires are:

- ✓ lack of regular cleaning of chimneys in fireplaces and woodstoves;
- ✓ placing things that can burn too close to space and portable heaters;
- ✓ flaws in design, installation or use;
- fueling errors involving liquid- or gas-fueled heaters; and
- leaving portable or space heaters unattended.

president for public education. "The critical elements of home heating safety have to do with correct installation, maintainence, fueling and operation of portable and space heaters — as well as safely arranging household items around them."

Tips for preventing heating equipment fires

When purchasing new heating equipment, the association advises selecting equipment that bears the mark of an independent testing laboratory. Install and maintain heating equipment correctly, and be sure it complies with local fire and building codes. Where possible, have local building or fire officials check the installation and maintenance.

"In many cases, you can actually prevent a fire just by reading and following the manufacturer's instructions when using a heating device. This is especially important when you are using a new heater for the first time," said Appy.

Marshall Center's Safety Goal: Be Number One in Safety within NASA!

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NASA photo

Media showered with highlights of Leonid experiments and research

Dr. John Horack of Marshall's Space Sciences Laboratory, right, explains video and science experiments sent aloft late Monday, Nov. 16, from the Marshall Center during the Leoind meteor shower. Horack gave details of the experiment to WAFF-TV reporter Ryan Korsgard. Images of the meteors captured by an on-board camera were carried live on the Internet at: http://science.nasa.gov and www.leonidslive.com

Exhibit in San Francisco shows how space research improves health care

by Jack Robertson Media Relations

Promising technologies for better medical treatments and disease-fighting drug research — enhanced by science experiments in space — will be discussed by NASA representatives at the Moscone Convention Center in San Francisco this week.

The American Association of Pharmaceutical Scientists conference features an exhibit highlighting NASA's biotechnology research efforts to improve health care on Earth. NASA representatives are on hand to discuss how scientists are using the unique environment of space to unlock the secrets of disease.

NASA's Biotechnology Program is managed by the Microgravity Research Program at the Marshall Center.

Dr. Daniel C. Carter, president of New Century Pharmaceuticals in Huntsville, is at the conference to outline the benefits of space research as an aid in mapping protein crystal structures and functions. NASA's goal is to advance the fundamental scientific knowledge base in this field so that pharmaceutical companies can use cutting edge technology to develop new drugs.

NASA and NASA-sponsored biotechnology research has contributed to the understanding of many diseases, including AIDS, heart disease, cancer, diabetes, respiratory syncytial virus, sickle cell anemia, hepatitis and rheumatoid arthritis.



NASA photo by Dennis Olive

Mobile Space Shuttle represents Center in Veterans Day parade

The Marshall Center joined the community in honoring the nation's veterans during the Veterans Day Parade Nov. 11 in downtown Huntsville. Marshall's mobile Space Shuttle represented the Center during the nearly 2-hour parade.

Obituaries

Barraza, Robert "Chuck", 80, Huntsville, died Oct. 18. Barraza retired from Marshall in 1980 where he worked as a technical manager in Science & Engineering. Barraza is survivied by his wife Irene Barraza.

Edwards, Fred, 80, Huntsville, died Oct. 19. Edwards retired from Marshall in 1973 where he worked as an engineer in Flight Systems, Astrionics Laboratory. Edwards is survived by his wife Lovenia Edwards.

Hatton, Leslie, 78, Huntsville, died June 3. Hatton retired from Marshall in 1979 where he worked as an aerospace engineering technician.

Ziak, William, 77, Decatur, Ala., died Oct. 26. Ziak retired from Marshall in 1980 where he worked as a systems information officer.

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Upcoming Events

Marshall co-sponsors Children's Health Fair today at Alabama A&M University

The Future Assets, Student Talent Program at Marshall is co-sponsoring a Children's Ability and Health Fair from 4-7 p.m. today at Alabama A&M University in Huntsville in the multi-purpose room of the School of Business.

The Health Fair is designed to bring together some of Alabama's most respected service organizations that benefit children with disabilities, learning disorders and childhood diseases. The fair which is free and open to the public — will offer parents, educators and counselors the opportunity to obtain information and speak with experts. Organizations attending the fair include NASA, the American Red Cross, Epilepsy Foundation, Alabama Department of Rehabilitation Services and Juvenile Arthritis Foundation. For more information about the fair, contact Chanel Vaughan at 544-6727 or Shelvie Miller 544-0090

NASA Exchange to sponsor bookfair Dec. 1-3

The NASA Exchange-sponsored semiannual bookfair will be from 9 a.m. - 3 p.m. Dec. 1-3 in Bldg. 4200, room G13. A wide selection of best-sellers, cookbooks, decorating, sports and children's books will be available for purchase. A new feature will be daily drawings at 11 a.m. and 2 p.m. to win a free book of your choice. Flyers with entry blanks are available in Marshall's Activities Bldg. 4752. For more information, call the Exchange Office at 544-7564.

Annual Christmas Dance Dec. 5 at VBC

Marshall's annual Christmas Dance will be Dec. 5 in the Von Braun Center Exhibit Hall.

Doors will open for the semi-formal event at 6 p.m. and two bands will play continuous music from 7-11 p.m. The "Little Big Band" will play the sounds of oldies and smoothies, and the "Nite

Owls" will feature rock and disco music. The bands will alternate every half hour. Non-alcoholic punch and a variety of hors d'oeuvres will be served. Cash bars also will be available.

Ticket cost for NASA employees, retirees and on-site contractors is \$6 and guest tickets are \$8. Tickets will be sold Nov. 16-Dec. 4 and may be purchased from 11:30 a.m.-12:30 p.m. Monday-Friday at Marshall's Activity Bldg. 4752

Tree lighting and Holiday Reception planned Dec. 9

The Marshall Center's Christmas Tree lighting and annual Holiday Reception will be Dec. 9. The tree lighting will be at 9 a.m. on the front lawn of Bldg. 4200, followed by the "Holiday Memories" reception from 9:30-11:30 a.m. in Bldg. 4752.

"This year's reception will ring in the holiday season with fun and socializing for everyone here at Marshall," said Leigh Key, holiday reception chairwoman. "We

Talent sought

Marshall's Holiday Reception committee is seeking individuals to provide entertainment during the reception Dec. 9.

Interested persons should contact Leigh Key at 544-5567 or Kim Whitson at 544-0866 by Dec. 2. plan to honor the Center's charter members since this is the 40th anniversary of NASA. We also will have entertainment from several of our employees," added Key.

All Center employees, retirees and contractors are invited to participate. Shuttle services will be provided.

All-hands meeting is Dec. 15

An all-hands meeting will be held at 8:30 a.m. Tuesday, Dec. 15, in Morris Auditorium.

Questions for Center Director Art Stephenson may be submitted via e-mail or interoffice mail to Judy Werner, CO01. Deadline for submitting questions is 4:30 p.m., Friday, Nov. 20.

Lockheed Martin names Kidwell director of Production Support

Cockheed Martin Michoud Space
Systems has named Jimmy Kidwell director of Production Support at the NASA Michoud Assembly Facility in New Orleans.

Kidwell will oversee manufacturing techniques, tool, equipment and organizations for production of Reusable Launch Systems components and vehicles at Michoud.

Michoud Space Systems designs and assembles welded and composite pressurized tanks for aerospace applications including the Space Shuttle external fuel tank, the X-33/VentureStar Reusable Launch Vehicle and related projects.

The X-33 Program is under the Space Transportation Programs Office at the Marshall Center.

Intertribal Celebration today at Redstone

Arshall's Equal Opportunity
Office, in conjunction with
Redstone Arsenal's Native American
Heritage Committee, will sponsor the
1998 Intertribal Celebration from 3-5
p.m. today at the Recreation Center on
Patton Road, Bldg. 3711.

Food samples, displays and vendors will be featured. The event is free and open to the public.

For more information, call Willie Love at 544-0088.

Black History Celebration committee meeting at 1 p.m. Thursday

The second planning meeting for the Marshall Center's next Black History Celebration, to be observed February 1999, will be at 1 p.m. Thursday, Nov. 19, in Bldg. 4200, room 329. For more information, contact Carolyn Landry at 544-0846.

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Employee Ads

Miscellaneous

- ★ Majestic fireplace insert: screen with glass doors and brass hood, adjustable blower, \$250.
- Two ISA network cards w/ cable, drivers, manual for WFW, Win95, WinNT, OS/2, \$20. 461-8721
- Top-of-car luggage carrier, \$25; Yamaha PSR-6 keyboard, \$25; super-single waterbed frame, \$25
- Encyclopedia Britannica, \$225. 895-9248
- Movie screen, \$30; free medium dog house. 864-
- Entertainment center, wood/glass, holds TV, VCR, stereo plus storage, \$375. 881-5034 Kitchenaid mixer: flat beater, dough hook, wire
- whip, pouring shield, extra bowl, \$150. 883-
- 1998 STRATOS 16' bass boat, 150 Evinrude motor, trailer, trolling motor, \$6,500. 464-3791
- Hay: Fescue and Orchard round bales, fertilized this year, you haul, \$18 per bale. 423-7126
- Four-piece black lacquer bedroom suite, \$400; earth-tone loveseat, \$75. 882-9053 5'x9' utility trailer, \$475; oak Bentwood rocker
- and magazine rack, \$30. 851-7255
- Holiday dishes, white Christmas pattern, white with gold rim, 10 place settings, \$150. 881-0551
- King-size mattress, box spring, \$345. 880-6335

Vehicles

- 1991 34' Airstream trailer, options, Ford diesel 350 clubwagon, 12-passenger. 881-9421
- Yamaha jet ski, 85HP, yellow and white, safety features, GP760, \$5,900. 837-2461
- 1992 Ford Explorer XLT, 4-dr., 5-spd., 138K miles, \$6,150. (931) 732-4742
- 1993 Ford Escort, 78K miles, 5-spd., 5-dr., hatchback, air, AM/FM cassette, \$6,000 obo.
- 1994 Chevrolet Silverado extended cab, 5.0L, V-8, 89K miles, silver/blue, \$11,800. 880-3765
- 1989 Firebird Formula, blue, \$4,900. 922-0958
- 1995 Kawasaki Vulcan motorcycle, 5K miles, \$4,300. 464-5008
- 1988 Pontiac Sunbird GT, black, \$1,000. 536-0299
- 1989 Toyota Tercel, 179K miles, \$1,350. 721-1950
- 1996 Mazda 626, burgundy, CD player, 34K miles, \$13,500. 784-9099
- 1977 Lincoln Continental, 66K miles, 4-dr., all
- power, leather, \$5,000. 232-5552 1996 Pontiac Transport, cruise, power door locks and windows, \$11,900 obo. 772-7842

Wanted

- Ride to work, 7 or 7:30 a.m. shift, Governors Drive/Huntsville Hospital area, will pay \$6 a day. 534-5398
- For Christmas: Ludwig drum set in good condition. 233-2597 or 722-9989

MARSHALL STAR

Marshall Space Flight Center, Alabama 35812

 $(256) \ 544-0030$ The Marshall Star is published every Wednesday by the Internal Relations and Communications Office at the George C. Marshall Space Flight Center, National Aeronautics and Space Marsnall Space Fight Center, National Aeronautics and Space Administration. Contributions should be submitted no later than Friday noon to the Marshall Internal Relations and Communications Office (CO40), Bldg. 4200, room 101. Submissions should be written legibly and include the originator's name. Send electronic mail submissions to: ann.bryk@msfc.nasa.gov The Marshall Star does not publish commercial advertising of any kind.

> Director of Internal Relations and Communications — Norman Brown Managing Editor — Angela D. Storey Writer-Editor — Ann Marie Bryk

NASA at Marshall Space Flight Center may be found at the following Web site: http://www.msfc.nasa.gov

U.S. Government Printing Office 1999-733-111-80036

Thank You

The Marshall Center's Equal Opportunity Office would like to thank the Marshall Center volunteers who participated in the NASA/High School Senior Day activities on Nov. 14 at Alabama A&M stadium.

Center Announcements

- Circus Ringling Bros., Barnum and Bailey will perform in Huntsville Dec. 3-6. All NAŠA employees, retirees and on-site contractors can receive a \$3 per-ticket discount for performances at 3:30 p.m., Saturday, Dec. 5; or 1:30 p.m. Sunday, Dec. 6. Ticket prices are \$13.50 (reg. \$16.50) or \$7.50 (reg. \$10.50) depending on seating choices. These discounted prices are only available through the NASA Exchange if a quantity of 25 tickets are purchased at one time. These seats will be assigned in blocks of 25 or more by the Von Braun Center, so early requests will receive priority. There are no further reductions for childrens' tickets. Ticket orders to include name of employee, number of desired tickets and full payment - may be placed at the NASA Exchange Office in Bldg. 4752. Contact:
- NASA Exchange at 544-7564.

 Blood Drive The American Red Cross will hold a blood drive at Marshall from 8 a.m.-1:30 p.m., Friday, Nov. 20 at Bldg. 4752. Those whose last names begin with T-Z should donate at 8 a.m.; Q-S, 8:30 a.m.; M-P, 9 a.m.; I-L, 9:30 a.m.; G-H, 10 a.m.; C-F, 10:30 a.m.; and A-B, 11 a.m. If you are unable to make your assigned appointment time, Red Cross representatives will be available until 1:30 p.m. and will be glad to assist you when you arrive.
- MESA— The Marshall Engineers & Scientists Association (MESA) will hold its monthly membership meeting at 11:30 a.m., Thursday, Nov. 19 in Bldg. 4471, room C-105. Refreshments will be served.
- NARFE The National Association of Retired Federal Employees (NARFE), Chapter 443, will meet at 9:30 a.m., Saturday, Nov. 21, at the Senior Center on Drake Avenue. Chapter 433 Insurance Counselor Pete Maiker will provide updates on changes to the Federal Employee Health Benefits Program and Medicare. Contact: 837-0382 or 881-3168
- Shuttle Buddies The Shuttle Buddies will meet for breakfast at 9:15 a.m., Monday, Nov. 23 at Shoney's on University Drive West. Contact: Deemer Self, 881-7757
- MOO Due to the Thanksgiving Day holiday, the Management Operations Office (MOO) retirees will meet for breakfast/lunch at 10 a.m., Thursday, Nov. 19 at the Cracker Barrel in Madison. All present or former MOO employees and retirees are invited. Contact: 539-0042

- Annual Nut Sale Marshall is offering Center employees, on-site contractors and retirees the opportunity to purchase a variety of nuts during the annual Nut Sale from 8 a.m.-4 p.m. beginning Nov. 20 in the Activities Bldg. 4752. Available on a first-come-first-serve basis will be pecans (fancy, mammoth halves) for \$5.25 per pound; chocolatecovered pecans for \$6.75 per pound; English walnuts for \$3.25 per pound; jumbo raw peanuts for \$1.75 per pound; roasted, salted (in shell) natural pistachios for \$3.25 per pound; dry-roasted cashews at \$5.25 per pound; hickory-smoked almonds at \$3 per 12 ounces; natural, whole almonds for \$3.25 per 12 ounces; and honeyroasted almonds at \$3 per 12 ounces.
- MARS Ballroom Dance Club The MARS Ballroom Dance Club will offer polka and tango lesson from 7-8 p.m. Nov. 23 in Parish Hall of St. Stephen's Episcopal Church, 8020 Whitesburg Drive. Lesson cost is \$8 per person and available to MARS Dance Club members, partners and guests. **Contact:** Pat Sage, 544-5427.
- American Express Vacation Office The American Express Vacation Office at Marshall is closed Nov. 2-19. For vacation travel arrangements or concerns during these dates, contact the American Express Travel Office at the following NASA Centers: Kennedy Space Center, (407) 867-3927; Lewis Research Center, (216) 433-6342; or Dryden Flight Research Center, (805) 258-2375.
- Closed for Thanksgiving The Auto Service Shop and the S&H Barber and Styling Shop will be closed Nov. 26-27 for the Thanksgiving hoilday. Both shops will reopen on Monday, Nov. 30. Contact: Auto Service Shop at 881-7640;
- S&H Barber and Styling Shop at 881-7932

 Material Safety Data Sheets Material data Safety Sheets may be found at the following Web site: http://eemo.msfc.nasa.gov/environmental/ haz_mat/ For more information, **contact**Marshall's Occupational Medicine and Environmental Health Services at 544-2390
- **Geneological Society** The Tennessee Valley Geneological Society's bi-monthly meeting will be held at 7 p.m. Nov. 19 at the Tom Bevell Center. "Alabama Manuscripts" will be the topic presented by speaker Charles Catado. Contact: Gay Campbell at 536-5696
- NASA Alumni League The NASA Alumni League will sponsor a Christmas Party at 6:30 o.m. Dec. 10 at the Valley Hill Country Club in Huntsville. Contact: Ed Buckbee at 881-9622 or Norm Schlemmer at 881-2938.
- The Marshall Association The Marshall Association will hold a luncheon meeting at 11:30 a.m., Tuesday, Nov. 24 in the Bldg. 4203 cafeteria. Steve Richards will brief attendees on the International Space Station Propulsion Module. Ticket cost is \$10 and payable at the door. For reservations, contact Jerry Williams at 544-0295 or e-mail to: T.Jerry.Williams@msfc.nasa.gov Reservation deadline is noon Monday, Nov. 23. Jim Kennedy, the Marshall Association nominating committee chair, also will present the committee's slate of officer candidates for 1999.

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